

REMARKS

This responds to the Office Action mailed on May 3, 2005.

No claims have been canceled, amended, or added. As a result, claims 1-28 are pending in this application.

For the convenience of the Examiner, Applicants' remarks concerning the claims will be presented in the same order in which the Examiner presented them in the Office Action.

Amendments to the Specification

On page 1, Applicants have updated the status of the divisional application and of the related applications, as available.

Rejection of Claims 1, 15, and 22 under 35 U.S.C. §102(e) as Anticipated by Wagner

Claims 1, 15, and 22 were rejected under 35 U.S.C. §102(e) as being anticipated by Wagner (U.S. 6,360,816).

Wagner discloses a cooling system for dissipating heat from a heat source (see Abstract). The heat sink 200 (FIG. 6) comprises a plurality of cooling fins 246 connected to a core 210. With reference to col. 8, beginning line 5, "The cooling fins 246 are positioned at an angle Φ relative to the reference axis AA, which is described herein as being approximately 45 degrees" [emphasis added].

Regarding independent claims 1, 15, and 22, Wagner fails to disclose all of the structural elements recited in these claims. For example, Wagner does not disclose "each fin having a base coupled to the core substantially parallel to the central axis" as recited in claims 1 and 15. Claim 22 contains a similar limitation.

The rule under 35 U.S.C. §102 is well settled that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP §2131.

For the above reasons, claims 1, 15, and 22 should be found to be allowable over Wagner, and Applicants respectfully request that the rejection of claims 1, 15, and 22 under 35 U.S.C. §102(e) as anticipated by Wagner be withdrawn.

Rejection of Claims 2, 3, 5, 6, 16, 17, 19, 20, 23, 24, 26, and 27
under 35 U.S.C. §103(a) as Unpatentable
over Wagner in view of Mira

Claims 2, 3, 5, 6, 16, 17, 19, 20, 23, 24, 26, and 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wagner in view of Mira (U.S. 5,661,638).

Wagner was discussed above.

Mira discloses a heat sink having a bottom surface having a plurality of arc-shaped fins 22 (FIGS. 3-4) formed therein and extending outward from a central region 24. In FIG. 3, fins 22 appear to be coupled to the central region 24 substantially parallel to a central axis. However, in Mira's heat sink, the bottom surface prevents air from venting downward through the fins 22. As described at col. 4, lines 2-4, "... when coolant is directed onto the present heat sink 20, the coolant will flow radially outward from central region 24 ...".

The Examiner asserts that "Wagner discloses the claimed invention except for bending of each fin". However, as Applicants showed above, Wagner fails to disclose "each fin having a base coupled to the core substantially parallel to the central axis".

Although Mira's fins 22 appear to be coupled substantially parallel to the central region 24, motivation to combine the teachings of Wagner and Mira is missing, because Wagner directs air downward through fins 346, including down through the first fin ring 281 (FIG. 3) and then outward in the direction 362 (FIG. 3), whereas Mira directs air downward between fins 22 and then against the bottom surface (FIGS. 3-4). To combine the teachings of Wagner and Mira would defeat the goal of Wagner, which apparently is to vent air completely through the fins 346, and it would also defeat the goal of Mira, which apparently is to stop the downward movement of air through fins 22 at the bottom surface.

Thus, Applicants respectfully assert that independent claims 1, 15, and 22 are patentable over any suggested combination of Wagner and Mira.

Claims 2, 3, 5, 6, 16, 17, 19, 20, 23, 24, 26, and 27, which depend from respective ones of claims 1, 15, and 22, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Applicants respectfully request that the rejection of claims 1, 15, and 22, as well as claims 2, 3, 5, 6, 16, 17, 19, 20, 23, 24, 26, and 27 dependent therefrom, under 35 U.S.C. §103(a) as being unpatentable over Wagner in view of Mira should be withdrawn.

Rejection of Claims 4, 7, 11, 13, 14, 18, 21, 25, and 28
under 35 U.S.C. §103(a) as Unpatentable over Wagner/Mira
in view of “Applicant’s Admitted Prior Art”

Claims 4, 7, 11, 13, 14, 18, 21, 25, and 28 were also rejected under 35 U.S.C. §103(a) as being unpatentable over Wagner/Mira, and further in view of “Applicant’s Admitted Prior Art” (hereafter “AAPA”).

Wagner and Mira were discussed previously. AAPA was asserted by the Examiner to disclose forming a cavity or channel in the core, and inserting a copper plug into the cavity.

As asserted by Applicants above regarding the earlier §103(a) rejection, Applicants’ independent claims 1, 15, and 22 are patentable over any suggested combination of Wagner and Miro. AAPA adds nothing to change this outcome, because independent claims 1, 15, and 22 do not recite forming a cavity or channel in the core.

Thus, Applicants respectfully assert that independent claims 1, 15, and 22 are patentable over any suggested combination of Wagner, Mira, and AAPA.

Claims 4, 7, 11, 13, 14, 18, 21, 25, and 28, which depend from respective ones of claims 1, 15, and 22, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Applicants respectfully request that the rejection of claims 1, 15, and 22, as well as claims 4, 7, 11, 13, 14, 18, 21, 25, and 28 dependent therefrom, under 35 U.S.C. §103(a) as being unpatentable over Wagner/Mira in view of AAPA should be withdrawn.

Additional Elements and Limitations

Applicants consider additional elements and limitations of claims 1-28 to further distinguish over the cited references, and Applicants reserve the right to present arguments to this effect at a later date.

Conclusion

Applicants respectfully submit that claims 1-28 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney, Walter W. Nielsen (located in Phoenix, Arizona) at (602) 298-8920, or the below-signed attorney (located in Minneapolis, Minnesota) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

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By their Representatives,

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Date Sept. 6, 2005

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 6th day of September, 2005.

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Signature